cluster only defines a logical grouping. For multi-valued Attributes, the Attribute

Cluster also defines a physical grouping where all of the Attributes in the cluster are

stored in the same Application Table.

[0313] **Attribute Cluster ID ([Attribute_Cluster_ID]).** Each Attribute cluster is

5   identified by a unique numeric identifier, the Attribute Cluster ID.

[0314] **Attribute Cluster Type ([Attribute_Cluster_Typ_Cd]).** Some Attribute

clusters simply define logical organizations, while others specify the physical

storage of the Attributes. This property specifies whether an Attribute cluster

defines a logical or physical grouping of the Attributes.

10 [0315] **Name ([Name]).** Each Attribute cluster is also identified by a name, which

must be unique among the Attribute and Attribute clusters associated with a

particular Entity class.

[0316]   The Application Table 1740 defines the Oracle® tables that contain

Entity or Attribute data for the exemplary embodiment. This information is primarily

15 used by (a) the data maintenance component in order to determine the tables that must

be updated during data maintenance activities and (b) the ad hoc query component in

order to identify the tables that must be included in a query and the relationships

between these tables. The following list describes the columns in this table:

[0317] **Application Table ID ([Application_Table_ID]).** Each Application Table

20   is identified by a unique numeric identifier, the Application Table ID.

[0318] **Description ([Descr]).** This column contains a description of the table.

[0319]   **DSec Table Name ([Application_Table_IDDynseg_Tbl]).** Some tables

(e.g., a Road Furniture Entity table) require a related DSec table that defines a

dynamic segmentation relationship between the table and the Division Section

(or Road Section) table. This column indicates the name, if any, of this

5   dynamic segmentation name. The standard name for a dynamic segmentation

table is the Table Name with "_DSec" appended at the end for A Division

Section based table and "_Rsec" appended at the end for a Road Section based

table.

[0320]   **DynSeg Field Name ([DynSeg_ID_Field_Name]).** When a table requires a

10   supporting dynamic segmentation table, a section ID column is the join field

between the dynamic segmentation table and the Anchor/Road Section table. A

section ID column is also used when a table is itself a dynamic segmentation

table (i.e., an Attribute Event table). This column indicates the name, if any, of

the section ID column. For Division Section based dynamic segmentation

15   tables, the standard name is "Division ID". For Road Section based dynamic

segmentation tables, the standard name is "Road ID".

[0321]   **History Type ([History_Typ_Cd]).** TSAF maintains a running history of

TSAF data by including a Begin Dt and End Dte column in the tables for

which historical information is maintained. This column indicates the type of

20   historical data that is maintained in this table.

[0322]   **Location Type ([Location_Typ_Cd]).** Tables that use dynamic

segmentation to identify a road location can be used for three types of

locations: a road location, a half-road location, or a road-side location. This
column indicates that type of road location, if any, used for this table.

[0323]   Schema Name ([DB_Schema_Name]). The name of the Oracle® schema
in which this table is located.

5 **[0324]   Shape Column Name.** Some tables include a shape column, in which case
they can be rendered by the TSAF mapping component. The Shape Column
Name indicates the name, if any, of the shape column in the table.

[0325]   Table Name ([Table_Name]). The name of the Oracle® table associated
with this Application Table.

10 **[0326]   Table Type ([Table_Typ_Cd]).** Each Application Table is characterized by
a table type, which determines how that table relates to other Application
Tables. This column specifies the table type for a Application Table.

[0327]   Most of the relationships between Application Tables are defined
directly by the type of the table. For example, an Attribute Event table is a dynamic
15 segmentation table that is related to either a Division Section or a Road Section table
by section ID, and an Attribute table is related to an Entity table by Entity ID. In some
cases, however, a non-standard relationship exists. For example, BIMS tables are
related to the TSAF Entity table that contains bridge information, though the TSAF
Entity ID is not the key in this relationship. Similarly, the county road characteristic
20 can be used to relate the road network to the county Attribute table, so that each
section of road "inherits" a county name Attribute. The Relates table 1760 includes
the following columns to contain information about these non-standard relationships: